Unitil

Memorandum

To: R.Bisson

Cc: T.Meissner, C.Christensen, P.Stagno, S.Baker, R.Abel, S.Zogopoulos, J.Bonazoli, J.Kowalski

From: K.Sprague

Date: 09/22/00

Re: West Townsend 3.75/5.25 MVA Transformer Failure – **Plan of Action**

This memo is intended to describe the plan of action which will be followed to remedy the current situation at West Townsend Substation. The intention is to free up the mobile to be removed in a timely fashion.

A loading study of the system indicated that extra transformer capacity is required in the Townsend/West Townsend end of the system. The final plan developed was as follows:

1. Princeton Rd – Distribution modifications to enable the removal of T1.
2. Move West Townsend 3.75/5.25 MVA transformer to Townsend to serve Sterilite.
3. Move Princeton Road T1 transformer to West Townsend.

The new plan of action is as follows:

With minor changes at Princeton Road, we can remove transformer T1 from Princeton Rd. Skip Zogopoulos and John Bonazoli will provide the modifications necessary to remove T1. A decision will be made by Tuesday of next week as to the modifications necessary.

In order to remove transformer T1 from Princeton Rd., the unit will need to be disassembled (HV bushings, HV and LV arresters and radiators). Based upon weight, the transformer can be shipped with oil. This will eliminate the vacuum filling process. Kevin and Skip will work with Waukesha, for warranty reasons, and a contractor to get this transformer disassembled and moved. By the end of next week, the transformer should be disassembled and ready to move.

Once disassembled, the unit will need to be rigged out of position. The unit will be delivered by truck to West Townsend substation. Before the unit is removed from the truck, the crane should remove the failed transformer from the pad and place it

on rails in the station, but out of the way. The transformer should set in an area where it can be removed easily.

The Princeton Road unit will then be placed onto the pad and assembled again. Once the transformer is assembled, UPG will test the unit. The tests should include, TTR on all windings, Megger, Doble, and oil sample.

John Bonazoli will work on the protection considerations at each substation. Skip will look into availability of S&C SMD-1A power fuses and coordinate materials to install T1 at West Townsend.

Once the transformer is energized, the mobile can be taken out of service. This should return the system to its new configuration. All this plan does is expedite projects that were scheduled for sometime in the near future.

As for the failed transformer, the LTC indicates that the oil is 500ppm PCB contaminated. Care should be taken while handling this oil. An oil sample should be taken from the LTC and main tank and tested for PCB content. This may have a drastic effect on the price to repair this unit. Skip and Kevin will look into the price to get this transformer rebuilt. Based upon this price, a determination will be made as to the future of the failed transformer.

At this point in time, it does not make sense to get our spare transformer from Groton Electric. It would take as much work to get the unit from Groton as it would to move the Princeton Road transformer. If the spare transformer was installed at West Townsend, it would have to be removed to install the Princeton Road transformer in the near future.

Action Items - Summary

1. As soon as possible, obtain oil sample from West Townsend main tank and LTC and test for PCB content. **(FG&E)**

2. Determine modifications needed to remove T1 from Princeton Road. **(JB, AZ)**

3. Obtain materials (connectors, fuses, taps, etc) required to install T1 at West Townsend. **(KS, AZ)**

4. Coordinate disassembly, move of T1, move of W.T. failed unit, reassembly of T1 and testing. **(KS, AZ)**

5. Recommendation on fate of West Townsend failed unit. **(KS, AZ)**

6. Follow-up report and findings on West Townsend failed transformer. **(KS)**